Futaba。

Futaba File System Utility for T14SG/FX-22/T12FG/T8FG/FX-20 (Version 5.0)

T14SG/FX-22/T12FG/T8FG/FX-20 use original file system that is different from a general file system (FAT, NTFS etc) of personal computer. Therefore, you cannot copy the model data from the SD card onto PC by using the Windows Explorer.

You have to use our utility software (Futaba File System Utility) to copy the model data between T14SG/FX-22/T12FG/T8FG/FX-20 and the PC.

* The previous versions (before version 2.0) do not correspond to T14SG/FX-22/T8FG/FX-20.

System requirements

- Microsoft Windows XP, Windows Vista, Windows 7, Windows 8
- Necessary memory and CPU specification is equal the system requirements of Operating System.

1. Installation

There is not installer. You have to only extract the compression file.

2. Uninstallation

There is not special uninstallation procedure. You have to only delete the file.

*When FFS of the previous version has already been installed, please install FFS of the upgrade version after uninstalling of the previous version. Or please copy FFS of the upgrade product onto the previous version in the superscription.

3. Mount of SD card

To handle the SD card by this utility, you have to open the card. This operation is called "mount".

3.1. Please attach the SD card to the card reader.



- 3.2. Please run the utility software (FFS.EXE).
- 3.3. The utility software starts, and the following screens are displayed. Please select "File" menu \rightarrow "Mount" menu or push the mount button.

	📽 Futab	a File Sys	tem Utilit	у	(
	File(<u>F</u>)	Edit(<u>E</u>) Dis	play(<u>V</u>) He	lp(<u>H</u>)			
	🖆) 🖥 ጫ 🗙						
Mount button	Ø Mount	t – OFF					
Mount button	No	File Type	TX Type	Model Type	Model Name		
	Ready				1		

3.4. The selection dialog of the drive is displayed. Please select the icon of SD card drive, and push the "OK" button.

Browse for Folder	? 🗙
Please select the drive that does the mount. Please select the drive that does the mount. My Computer Style Computer CD-RW Drive (D:) CD-RW Drive (D:) Removable Disk (E:) Removable Disk (F:) Removable Disk (F:)	
Removable Disk (H:) Removable Disk (I:) Shared Documents User's Documents	
ОК Са	ncel

3.5. When the utility software finish mount process, it display the content of the card.

No.: File index

File Type : Refer to following table.

File Type	Content
MODEL	They are files of Model data. You cannot write to file index of first to fourth, because file index of first to fourth is system reserved.
LOG	Telemetry log data. You cannot write to file index of first to fourth, because file index of first to fourth is system reserved. (*)
UPDATE	They are files for software update.
KEY	They are files for software update of Transmitter.
-	Not used.

* The file number 1-4 cannot read and write a file because of the reservation domain of a system.

Model Type	content
AIRPLANE	They are the airplane models.
HELICOPTER	They are the helicopter models.
GLIDER	They are the glider models.
MULTIROTOR	They are the multirotor models.
UNKNOWN	They are not model data.
-	They are not used or not model data.

Model Type : Refer to following table.

Model Name : Model name is displayed.

📽 Futaba File System Utility 📃 🗖 🗙									
File(<u>F</u>) Edit(<u>E</u>) Display(<u>V</u>) Help(<u>H</u>)									
📽 🖬 🗏	📽 💼 📲 🕷 🗙								
🥥 Mount	t – G:¥TINYF:	S.IMG							
No	File Type	TX Type	Model Type	Model Name	<u>^</u>				
1	UPDATE	-	-	-					
2	UPDATE	-	-	-					
3	UPDATE	-	-	-					
4	KEY	-	-	-					
5	MODEL	T8FG	AIRPLANE	MODEL-01					
6	MODEL	T8FG	HELICOPTER	MODEL-02					
7	MODEL	T8FG	GLIDER	MODEL-03					
8	MODEL	T12FG	GLIDER	NEW1					
9	MODEL	T12FG	AIRPLANE	NEW2					
10	-	-	-	-					
11	MODEL	T8FG	HELICOPTER	MODEL-04					
12	MODEL	T12FG	HELICOPTER	NEW3					
13	-	-	-	-					
14	-	-	-	-	~				
Ready		1							

When it is telemetry log data (File Type is LOG), it is displayed as "LOG1."

When telemetry log data is recorded exceeding 1 file size, it is divided and recorded on two or more files. The display in that case \rightarrow [LOG1] [LOG2] [LOG3] ...

4. Read from SD card (export)

- 4.1. Please select the model data or telemetry log data.
- 4.2. Please select "Edit" menu \rightarrow "Export" menu or push the export button.

	🖺 Futab						
	File(<u>F)</u> E	Edit(<u>E</u>) Disp	play(V) Hel	lp(<u>H</u>)			
	🖻 🖬 🚱 🖁 🗙						
	Mount - G:¥TINYFS.IMG						
	No	File Type	TX Type	Model Type	Model Name	<u> </u>	
Export button	1	UPDATE	-	-	-		
	2	UPDATE	-	-	-		
	3	UPDATE	-	-	-	_	
		KEY			-		
	5	MODEL	T8FG	AIRPLANE	MODEL-01		
	Ū.	MODEL	Torg	HELIOOFTER	MODEL-02		
	7	MODEL	T8FG	GLIDER	MODEL-03		
	8	MODEL	T12FG	GLIDER	NEW1		
	9	MODEL	T12FG	AIRPLANE	NEW2		
	10	-	-	-	-		
	11	MODEL	T8FG	HELICOPTER	MODEL-04		
	12	MODEL	T12FG	HELICOPTER	NEW3		
	13	-	-	-	-		
	14	-	-	-	-	~	
	Ready				1		

4.3. Export dialog is displayed. Please select destination of copy and push "Save" button. The utility software copy the data from SD card to the selected folder of your PC. If telemetry log data is exported, it is saved by CSV. Please input a file name in an export dialog and push "Save" button. A file extension is added automatically.

Export(Read)					? 🛛
Savejn:	🗀 Untitled		T	⇐ 🗈 📸 🖬 •	
My Recent Documents Desktop					
My Documents					
My Computer					
My Network Places	File <u>n</u> ame: Save as <u>t</u> ype:	MODEL-01 All Files (*.*)		•	<u>S</u> ave Cancel

5. Write to model data (import)

- 5.1. Please select the destination of writing the model data.
- 5.2. Please select "Edit" menu \rightarrow "Import" menu or push the import button.

	📲 Futal	a File Sys	tem Utilit	у				
	File(<u>F</u>)	Edit(<u>E)</u> Dis	play(<u>V</u>) He	lp(<u>H</u>)				
	学 🖆							
	🔘 Moun	t – G:¥TINYF	S.IMG					
	No	File Type	TX Type	Model Type	Model Name	^		
Import button 🧹	1	UPDATE	-	-	-	8		
•	2	UPDATE	-	-	-			
	3	UPDATE	-	-	-			
	4	KEY	-	-	-			
	5	MODEL	T8FG	AIRPLANE	MODEL-01			
	6	MODEL	T8FG	HELICOPTER	MODEL-02			
	7	MODEL	T8FG	GLIDER	MODEL-03			
	8	MODEL	T12FG	GLIDER	NEW1			
	9	MODEL	T12FG	AIRPLANE	NEW2			
	10	-	-	-	-			
	11	MODEL	T8FG	HELICOPTER	MODEL-04			
	12	MODEL	T12FG	HELICOPTER	NEW2			
(13	-	-	-	-			
	14	-	-	-	-	~		
	Ready					11		

Import(Write)						? 🔀
Look in:	🗀 Untitled		•	- 🔁	r 🔝 📩	
Mu Rasant	MODEL-01					
Documents						
Desktop						
>						
My Documents						
I						
My Computer						
My Network Places	File <u>n</u> ame:					<u>O</u> pen
	Files of type:	All Files (*.*)			•	Cancel

5.3. Import dialog is displayed. Please select the model data and push "Open" button.

5.4. The utility software copy the model data to the SD card.

📲 Futab									
File(E) Edit(E) Display(V) Help(H)									
🖻 🖬 🗏	🗛 🖷 🗙								
🥥 Moun	t – G:¥TINYF:	S.IMG							
No	File Type	TX Type	Model Type	Model Name	<u>^</u>				
1	UPDATE	-	-	-					
2	UPDATE	-	-	-					
3	UPDATE	-	-	-					
4	KEY	-	-	-					
5	MODEL	T8FG	AIRPLANE	MODEL-01					
6	MODEL	T8FG	HELICOPTER	MODEL-02					
7	MODEL	T8FG	GLIDER	MODEL-03					
8	MODEL	T12FG	GLIDER	NEW1					
9	MODEL	T12FG	AIRPLANE	NEW2					
10	-	-	-	-					
11	MODEL	T8FG	HELICOPTER	MODEL-04					
12	MODEL	T12FG	HELICOPTER	NEW3					
13	MODEL	T8FG	AIRPLANE	MODEL-01					
14	-	-	-	-	~				
Ready			' 						

6. Delete data

- 6.1. Please select the model data or telemetry log data.
- 6.2. Please select "Edit" menu \rightarrow "Delete" menu or push the delete button.

	🖺 Futab	a File Sys	tem Utilit	у		
	File(<u>F</u>)	Edit(<u>E)</u> Dis	play(<u>V</u>) He	lp(<u>H</u>)		
	💕 🖆 🗏)			
	O Moun	t - G:¥TINYF	S.IMG			
	No	File Type	TX Type	Model Type	Model Name	~
Delete button	1	UPDATE	-	-	-	
	2	UPDATE	-	-	-	
	3	UPDATE	-	-	-	
	4	KEY	-	-	-	
	5	MODEL	T8FG	AIRPLANE	MODEL-01	
	6	MODEL	T8FG	HELICOPTER	MODEL-02	
	7	MODEL	T8FG	GLIDER	MODEL-03	
	8	MODEL	T12FG	GLIDER	NEW1	
	9	MODEL	T12FG	AIRPLANE	NEW2	
	10	-	-	-	-	
	11	MODEL	T8FG	HELICOPTER	MODEL-04	
	12	MODEL	T12FG	HELICOPTER	NEW2	
	13	MODEL	T8FG	AIRPLANE	MODEL-01	
	14	-	-	_	-	~
	Ready					1.

6.3. The confirm dialog is displayed. Push "OK" button.



6.4. The utility software delete the selected data.

📽 Futaba File System Utility									
File(E) Edit(E) Display(V) Help(H)									
💕 🖆 🗏	1991年11日 - 1991年110月 - 1991900000000000000000000000000000000								
🥥 Mount	t – G:¥TINYF:	S.IMG							
No	File Type	TX Type	Model Type	Model Name	<u>^</u>				
1	UPDATE	-	-	-					
2	UPDATE	-	-	-					
3	UPDATE	-	-	-					
4	KEY	-	-	-					
5	MODEL	T8FG	AIRPLANE	MODEL-01					
6	MODEL	T8FG	HELICOPTER	MODEL-02					
7	MODEL	T8FG	GLIDER	MODEL-03					
8	MODEL	T12FG	GLIDER	NEW1					
9	MODEL	T12FG	AIRPLANE	NEW2					
10	-	-	-	-					
11	MODEL	T8FG	HELICOPTER	MODEL-04					
12	MODEL	T12FG	HELICOPTER	NEW3					
13	-	-	-	-					
14	-	-	-	-	~				
Ready			·						

7. Display SD card infomation

7.1. Please select "Display" menu → "Property" menu. The utility software dispaly the card infomation dialog.

Property	×
Block Size (KB)	256
Total Blocks	1940
Free Blocks	1928
Total Entries	968
Free Entries	955
(OK	

8. Unount SD card

Before SD card detach the card reader, You have to close the SD card. This operation is called "unmount".

8.1. Please select "File" menu \rightarrow "Unmount" menu or push the unmount button.

	📲 Futab	a File Sys	tem Utility	y		
	File(<u>F</u>)	Edit(<u>E</u>) Dis	play(<u>V</u>) He	lp(<u>H</u>)		
		4 🗛 🗙				
	Mount	t – G:¥TINYF:	S.IMG			
	No	File Type	TX Type	Model Type	Model Name	^
Unmount button	1	UPDATE	-	-	-	
	2	UPDATE	-	-	-	
	3	UPDATE	-	-	-	
	4	KEY	-	-	-	
	5	MODEL	T8FG	AIRPLANE	MODEL-01	
	6	MODEL	T8FG	HELICOPTER	MODEL-02	
	7	MODEL	T8FG	GLIDER	MODEL-03	
	8	MODEL	T12FG	GLIDER	NEW1	
	9	MODEL	T12FG	AIRPLANE	NEW2	
	10	-	-	-	-	
	11	MODEL	T8FG	HELICOPTER	MODEL-04	
	12	MODEL	T12FG	HELICOPTER	NEW3	
	13	-	-	-	-	
	14	-	-	-	-	~
	Ready					

8.2. The confirm dialog is displayed, Push "OK" button.

Futaba File Syst	tem Utility	×
There is	s an unmount.	
OK	キャンセル	

8.3. You can detach the SD card, after this operation.

9. Telemetry log data

Telemetry log file created with the transmitter corresponding to a telemetry log function is convertible for CSV.

The file of CSV can be opened by software, such as Microsoft Excel.

(The contents of a telemetry log data)

- The record time of data
- Each channel signal of a transmitter
- Slot number
- The kind of sensor
- Telemetry data



FFS Ver.4.0 can combine two or more log files.

When the telemetry log data is longer than 1 file size, T14SG/FX-22 divides and records it into two or more files.

🔐 Futaba	File System	Utility Ver.4	4.0				
File(F)	Edit(E) Disp	olay(V) Lo	g File(L) Help(H)				
📽 💕 🖗	砲砲×		UNIT(U)	→ 🗸	METRIC(M)		
🥥 Mount	t - E¥TINYFSJ	MG	Convert(C)	•	YARD/POUND(Y)	Cambine	
No	File Type	тх туре	модет туре	Mode	el Name		A
1	-	-	-	-			
2	-	-	-	-			
3	-	-	-	-			
4	-	-	-	-			

There is a check mark on the current mode .

There is a check mark on the current mode .

Futaba	File System	Utility Ve	r.4.0				X-
File(F)	Edit(E) Disp	olay(V)	og File(L) Help(H)				
📽 🛍 8	钻靴X		UNIT(U)	•			
Ø Mount	: - EXTINYESI	MG	Convert(C)	• epa	rate(5)	Combine	
No	File Type	тх туре	Model Type	T ✓ Com	bine(C)		*
1	-	-	-	-		_	
2	-	-	-	-			
3	-	-	-	-			
4	-	-	-	-			

11. How to convert and combine the telemetry data

When the telemetry log data is longer than 1 file size, records it into two or more files.

A display becomes like this. \rightarrow [LOG1] [LOG2] [LOG3]...

A file is combinable in the following procedures.

11.1. Please select "Combine" mode at "Log File" menu.

ſ	Futaba	File System	Utility Ver.4	.0	a constant a		· 24	
	File(F) E	dit(E) Disp	olay(V) Log	File(L) Help(H)				
	📽 💕 🖗	L 🗠 🗙 💧						
	🥥 Mount	- E¥TINYFS]	MG			Metric	Combine	
ll	No	File Type	TX Type	Model Type	Model Name			*
II	1	-	-	-	-			
Ш	2	-	-	-	-			
V	3	-	-	-	-			

If "LOG1" file is chosen even if "Combine" is chosen, a file will be created and changed newly.

- 11.2. Please select "LOG1".
- 11.3. Please execute "Export" menu.

3	-	-	-	-		
- 4	-	-	-	-		
5	MODEL	T145G	MULTIROTOR	MODEL-01		
6	MODEL	T145G	AIRPLANE	MODEL-02		
7	MODEL	T145G	HELICOPTER	MODEL-03		
8	MODEL	T145G	GLIDER	MODEL-04		
9	LOG	T145G	UNKNOWN	LOG1		
10	LOG	T145G	UNKNOWN	L0G2	Export(R)	Shift+R
11	LOG	T145G	UNKNOWN	LOG3	Import(W)	Shift+W
12	LOG	T145G	UNKNOWN	LOG4	Delete(D)	Shift+D
13	LOG	T145G	UNKNOWN	LOG5		
14	-	-	-	-		
15	-	-	-	-		
16	-	-	-	-		

11.4. The file dialog is opened. Please enter the file name after conversion. After that, please click SAVE button.



11.5. If RPM sensor is registrated, the dialog for setting the parameter is opened. Please set the parameters same as transmitter. After that, please click OK button.

RPM Sensor Type
Start Slot No. 2 Sensor RPM SENSOR
Туре
C OPTIC
C BLS motor
GEAR RATIO 1.00 ÷

When MAGNETIC type is selected, When OPTIC type is selected, **GEAR RATIO is needed.**

RPM Sensor Type	١
Start Slot No. 2 OK Sensor RPM SENSOR Type C MAGNETIC C DPTIC C BLS motor	
Number of FIN 2	
	J

Numbers of fins are needed.

RPM Sensor Type	×
Start Slot No. 2 Sensor RPM SENSOR	OK
C MAGNETIC	
C OPTIC	
BLS motor	_
Number of Pole 2	

When BLS motor type is selected, Numbers of poles are needed.

11.6. If GPS sensor is registrated, the dialog for setting the parameter is opened. Please set the parameters same as transmitter. After that, please click OK button.

GPS Distance Mo	de	×
Start Slot No. Sensor	8 GPS	ССК
Mode		

11.7. If ROXXY Smart Controller (Robbe) is registrated, the dialog for setting the parameter is opened. Please set the parameters same as transmitter. After that, please click OK button.

ROXXY Smart Controller							
Start Slot No. Sensor POLE	1 ROXXY Smart Control	ОК					

11.8. If Castle ESC is registrated, the dialog for setting the parameter is opened. Please set the parameters same as transmitter. After that, please click OK button.

Castle ESC RPM Sensor Type
Start Slot No. 8 Sensor Castle ESC Type © GEAR RATIO © POLE
GEAR RATIO 1.00 -

Castle ESC RPM Sensor Type
Start Slot No. 8 Sensor Castle ESC Type © GEAR RATIO © POLE
Number of Pole 2

- 11.9. 1st telemetry file is converted.
- 11.10. Please select next file "LOG2".
- 11.11. Please execute "Export" menu.

👪 Futaba	File System	Utility Ver.4	.0				
File(F)	Edit(E) Disp	olay(V) Log	File(L) Help(H)				
🖙 💣 🎙	L 🔍 🗙						
Mount - E¥TINYFSIMG					Metric	Combine	
No	File Type	TX Type	Model Type	Model Name			*
1	-	-	-	-			
2	-	-	-	-			
3	-	-	-	-			
4	-	-	-	-			
5	MODEL	T14SG	MULTIROTOR	MODEL-01			
6	MODEL	T14SG	AIRPLANE	MODEL-02			
7	MODEL	T145G	HELICOPTER	MODEL-03			
8	MODEL	T145G	GLIDER	MODEL-04			
9	LOG	T14SG	UNKNOWN	LOG1			
10	LOG	T14SG	UNKNOWN	LOG2			
11	LOG	T14SG	UNKNOWN	LOG3	Export(R)	Shift+R	
12	LOG	T14SG	UNKNOWN	LOG4	Import(W)	Shift+W	
13	LOG	T14SG	UNKNOWN	LOG5	Delete(D)	Shift+D	
14	-	-	-	-			
15	-	-	-	-			
16	-	-	-	-			

11.12. Message box is opened. Please click OK button. "LOG2" is converted. And, it is added in the end of "LOG1".



If the file order is mistaken (the elapsed time is error), the warning screen is displayed. And, this file is not converted and combined.

Combin N	lode 🛛 🔀
The ela	psed time error !!
	ОК

- 11.13. Please select next file which you would like to convert and append. And, please repeat to operate from10 to 13.
- 11.14. If you select "LOG1", you can create new file and restart convert and combine.



< The example of a conversion file >